

# BROKEN ANKLE

## What is a broken ankle?

A broken ankle is a break in one or more of the bones that make up the ankle joint. These bones are the tibia, fibula, and talus.

## How does it occur?

Ankle breaks, or fractures, can occur in many ways: for example, by falls, contact sports and exercise injuries, and force from a blow.

There are many types of fractures, which determine the severity of the injury and its treatment:

- Nondisplaced fracture: the broken pieces of bone remain properly aligned
- Displaced fracture: the broken pieces of bone are not properly aligned
- Comminuted fracture: there are more than two pieces of bone at the fracture.
- Compound (open) fracture: one end of the broken bone has broken through the skin.
- Closed fracture: neither end of the broken bone has pierced the skin.
- Impacted fracture: the ends of the broken bone are driven into each other.
- Avulsion fracture: the muscle or ligament has pulled a portion of the bone away from where it was originally attached.
- Pathological fracture: the bone has been weakened or destroyed by disease (such as osteoporosis) so that the bone breaks easily.

## What are the symptoms?

Symptoms of an ankle fracture include:

- a snapping or popping sound at the time of the injury
- loss of function (hurts to move the ankle)
- pain
- tenderness
- swelling
- deformity (sometimes)
- discolored skin, or bruising, which appears hours to days after the injury

Rarely, you may have an open wound with an ankle fracture.

## How is it diagnosed?

To diagnose an ankle fracture, the healthcare provider will review your symptoms, ask about how the injury

occurred, and examine you. He or she will also order X-rays. Several different views of the bone may be taken to pinpoint the fracture.

## How is it treated?

The immediate emergency treatment for a fractured ankle is immobilization (keeping it from moving), elevation, compression (wrapping it with an elastic or Ace bandage), and the application of ice packs.

The healthcare provider may need to set your ankle bone back into its proper place and put you in a cast for 6 to 8 weeks. If the fracture is not too severe, you may be able to walk in the cast after a short period.

If the ankle bone cannot be aligned perfectly before it is ready for a cast, surgery will be necessary.

In the first 2 to 3 weeks after the injury, be sure to keep your ankle elevated on pillows and place ice packs on top of the cast for 20 to 30 minutes every 3 to 4 hours to help reduce swelling.

You should also do the following:

- Make sure the cast does not get wet. Cover the cast with plastic when you bathe.
- Use crutches or a cane, as directed by your healthcare provider. He or she will tell you how much weight you can put on your leg, if any.
- Don't scratch the skin around the cast or poke things down the cast. This could cause an infection.

## How can I take care of myself?

To help take care of yourself, follow the full course of treatment your healthcare provider prescribes. Also, follow these guidelines:

- Get plenty of rest.
- Elevate the leg when possible to reduce any swelling.

Call your healthcare provider immediately if:

You have swelling above or below the fracture.

- Your toenails or feet turn grey or blue and stay grey or blue even when your leg is elevated.
- You have numbness or complete loss of feeling in the skin below the fracture.
- You have lingering pain at the site of the fracture under the cast, or increasing pain not helped by elevation or pain medicine.
- You have burning pain under the cast.

## When can I return to my sport or activity?

The goal of rehabilitation is to return you to your sport or activity as soon as is safely possible. If you

return too soon you may worsen your injury, which could lead to permanent damage. Everyone recovers from injury at a different rate. Return to your sport or activity will be determined by how soon your ankle recovers, not by how many days or weeks it has been since your injury occurred. Some people return within a few days after the cast is removed, some in several weeks. Your ankle will be healing while you are doing your rehabilitation exercises. These exercises will help improve your ankle strength and range of motion.

You may safely return to your sport or activity when, starting from the top of the list and progressing to the end, each of the following is true:

- You have full range of motion in the injured leg compared to the uninjured leg.
- You have full strength of the injured leg compared to the uninjured leg.
- You can jog straight ahead without pain or limping.

- You can sprint straight ahead without pain or limping.
- You can do 45-degree cuts, first at half-speed, then at full-speed.
- You can do 20-yard figures-of-eight, first at half-speed, then at full-speed.
- You can do 90-degree cuts, first at half-speed, then at full-speed.
- You can do 10-yard figures-of-eight, first at half-speed, then at full-speed.
- You can jump on both legs without pain and you can jump on the injured leg without pain.

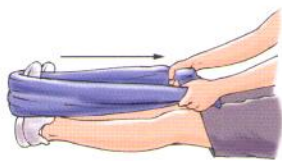
### How can I help prevent an ankle fracture?

Unfortunately, most foot sprains occur during accidents that are not preventable. However, it is important to wear proper fitting footwear and to avoid running or playing on uneven surfaces.

## BROKEN ANKLE REHABILITATION EXERCISES

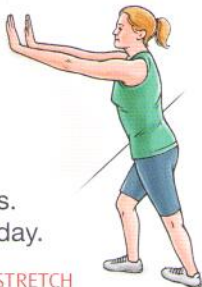
Do these exercises as soon as your healthcare provider says you can.

**1. TOWEL STRETCH:** Sit on a hard surface with one leg stretched out in front of you. Loop a towel around the ball of your foot and pull the towel toward your body keeping your knee straight. Hold this position for 15 to 30 seconds then relax. Repeat 3 times.

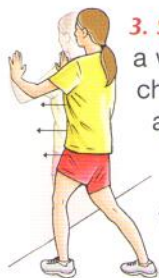


TOWEL STRETCH

**2. STANDING CALF STRETCH:** Facing a wall, put your hands against the wall at about eye level. Keep one leg back with the heel on the floor, and the other leg forward. Turn your back foot slightly inward (as if you were pigeon-toed) as you slowly lean into the wall until you feel a stretch in the back of your calf. Hold for 15 to 30 seconds. Repeat 3 times. Do this exercise several times each day.



STANDING CALF STRETCH

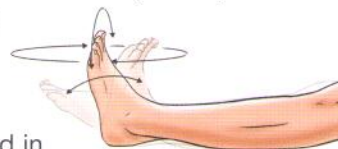


STANDING SOLEUS STRETCH

**3. STANDING SOLEUS STRETCH:** Stand facing a wall with your hands on a wall at about chest level. With both knees slightly bent and one foot back, gently lean into the wall until you feel a stretch in your lower calf. Angle the toes of your back foot slightly inward and keep your heel down on the floor. Hold this for 15 to 30 seconds. Return to the starting position. Repeat 3 times.

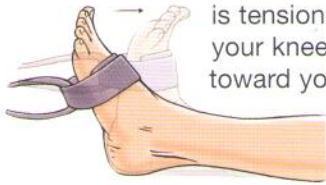
You can do the next 5 exercises when your ankle swelling has stopped increasing.

**4. ANKLE RANGE OF MOTION:** Sitting or lying down with your legs straight and your knee toward the ceiling, move your ankle up and down by pointing your toes toward your nose, then away from your body; in toward your other foot and out away from your other foot; and in circles. Only move your foot and ankle. Don't move your leg. Repeat 10 times in each direction. Push hard in all directions.



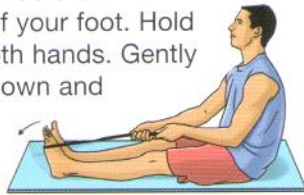
ANKLE RANGE OF MOTION

**5. RESISTED ANKLE DORSIFLEXION:** Sit with one leg out straight and your foot facing a doorway. Tie a loop in one end of elastic tubing. Put your foot through the loop so that the tubing goes around the arch of your foot. Tie a knot in the other end of the tubing and shut the knot in the door. Move backward until there is tension in the tubing. Keeping your knee straight, pull your foot toward your body, stretching the tubing. Slowly return to the starting position. Do 3 sets of 10.



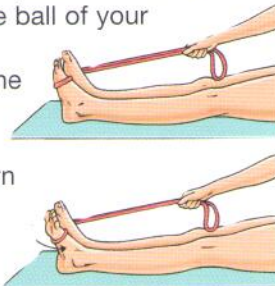
RESISTED ANKLE DORSIFLEXION

**6. RESISTED ANKLE PLANTAR FLEXION:** Sit with your leg outstretched and loop the middle section of the tubing around the ball of your foot. Hold the ends of the tubing in both hands. Gently press the ball of your foot down and point your toes, stretching the tubing. Return to the starting position. Do 3 sets of 10.



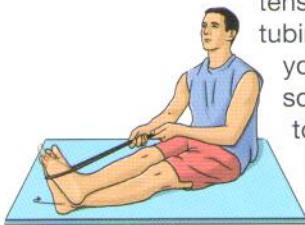
RESISTED ANKLE PLANTAR FLEXION

**7. RESISTED ANKLE INVERSION:** Sit with your legs out straight and cross one leg over your other ankle. Wrap elastic tubing around the ball of your bottom foot and then loop it around your top foot so that the tubing is anchored there at one end. Hold the other end of the tubing in your hand. Turn your bottom foot inward and upward. This will stretch the tubing. Return to the starting position. Do 3 sets of 10.



RESISTED ANKLE INVERSION

**8. RESISTED ANKLE EVERSION:** Sit with both legs stretched out in front of you, with your feet about a shoulder's width apart. Tie a loop in one end of elastic tubing. Put one foot through the loop so that the tubing goes around the arch of that foot and wraps around the outside of the other foot. Hold onto the other end of the tubing with your hand to provide tension. Turn the foot with the tubing up and out. Make sure you keep your other foot still so that it will allow the tubing to stretch as you move your foot with the tubing. Return to the starting position. Do 3 sets of 10.



RESISTED ANKLE EVERSION

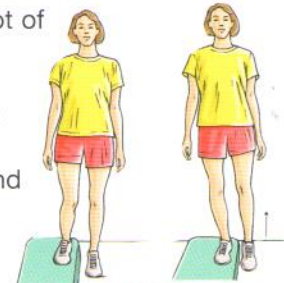
You may do the rest of the exercises when you can stand on your injured ankle without pain.

**9. HEEL RAISE:** Balance yourself while standing behind a chair or counter. Raise your body up onto your toes and hold for 5 seconds. Then slowly lower yourself down. Hold onto the chair or counter if you need to. When this exercise becomes less painful, try lowering on one leg only. Repeat 10 times. Do 3 sets of 10.



HEEL RAISE

**10. STEP-UP:** Stand with the foot of one leg on a support (like a block of wood) 3 to 5 inches high. Keep your other foot flat on the floor. Shift your weight onto the leg on the support and straighten the knee as the other leg comes off the floor. Lower your leg back to the floor slowly. Do 3 sets of 10.

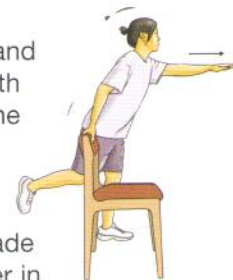


STEP-UP

**11. BALANCE AND REACH EXERCISES**

Stand upright next to a chair. This will provide you with balance if needed. Stand on the foot farthest from the chair. Try to raise the arch of your foot while keeping your toes on the floor.

A. Keep your foot in this position and reach forward in front of you with your hand farthest away from the chair, allowing your knee to bend. Repeat this 10 times while maintaining the arch height. This exercise can be made more difficult by reaching farther in front of you. Do 2 sets.



B. Stand in the same position as above. While maintaining your arch height, reach the hand farthest away from the chair across your body toward the chair. The farther you reach, the more challenging the exercise. Do 2 sets of 10.



BALANCE AND REACH EXERCISES

ANKLE